DOCUMENT RESUME

ED 107 806 CE 003 900

TITLE	Highway Safety Program Manual: Volume 17: Pupil Transportation Safety.
INSTITUTION	National Highway Traffic Safety Administration (DOT), Washington, D. C.
PUB DATE	Feb 74
NOTE	44p.; For related documents, see CE 003 883-899 and CE 003 901
AVAILABLE FROM	Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402 (Stock Number 5003-00174, $0.95)
EDRS PRICE	MF-$0.76 HC-$1.95 PLUS POSTAGE
DESCRIPTORS	Bus Transportation; Evaluation Criteria; Evaluation Methods; Federal Legislation; *Federal Programs; *Guidelines; Local Government; Objectives; Policy; Program Evaluation; Reports; *School Buses; State Government; State Programs; *Student Transportation; *Traffic Safety
IDENTIFIERS	*Highway Safety

ABSTRACT

Volume 17 of the 10-volume Highway Safety Program Manual (which provides guidance to State and local governments on preferred highway safety practices) focuses on pupil transportation safety. The purpose and objectives of a pupil transportation safety program are outlined. Federal authority in the area of pupil transportation and policies regarding such a program are explained. Program development and operations (State and local administration, identification and equipment, operation, driver training, licensing and the school bus driver, pupil instruction, and vehicle operation and maintenance) are presented. Criteria and procedures for program evaluation and operational reports are explained. Local government participation and funding criteria for 402 pupil transportation safety projects are outlined. Appendixes contain the Highway Safety Program Standard 17, Pupil Transportation Safety; A glossary of definitions; references; a list of representative projects; and a list of resource organizations. (NH)

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Highway Safety NO. **17**

Program Manual

Pupil Transportation Safety

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FEBRUARY 1974

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U.S. DEPARTMENT
OF TRANSPORTATION

NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION

HIGHWAY SAFETY PROGRAM MANUAL

VOLUME 17

PUPIL TRANSPORTATION SAFETY

This Manual is designed as a guide for States and their political subdivisions to use in developing highway safety program policies and procedures. It does not supersede the requirements of Highway Safety Program Standard No. 17.

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 95 cents
Stock Number 5003-00174

FOREWORD

As a part of the Highway Safety Program Manual, this volume is designed to provide guidance to State and local governments on preferred highway safety practices. Volumes comprising the Manual are:

0. Planning and Administration
1. Periodic Motor Vehicle Inspection*
2. Motor Vehicle Registration*
3. Motorcycle Safety*
4. Driver Education*
5. Driver Licensing*
6. Codes and Laws*
7. Traffic Courts*
8. Alcohol in Relation to Highway Safety
9. Identification and Surveillance of Accident Locations
10. Traffic Records*
11. Emergency Medical Services*
12. Highway Design, Construction and Maintenance
13. Traffic Engineering Services
14. Pedestrian Safety
15. Police Traffic Services*
16. Debris Hazard Control and Cleanup
17. Pupil Transportation Safety
18. Accident Investigation and Reporting

The volumes of the Manual supplement the Highway Safety Program Standards and present additional information to assist State and local agencies in implementing their highway safety programs.

The content of the volumes is based on the best knowledge currently available. As research and operating experience provide new insights and information, the Manual will be updated.

The volumes of the Highway Safety Program Manual deal with preferred highway safety practice and in no way commit the Department of Transportation to funding any particular program or project.

Many organizations and individuals at all levels of government and in the private sector contributed heavily in the preparation of the volumes of the Manual. The Department appreciates greatly this help in furthering the national program for improving highway safety for all Americans.

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*These volumes have been updated by Supplements issued during 1971-72.

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

HIGHWAY SAFETY PROGRAM MANUAL

Volume 17 PUPIL TRANSPORTATION SAFETY	Transmittal 34
Chapter CONTENTS	February 1974

Chapter I. Purpose

II. Authority

III. General Policy

IV. Program Development and Operations

V. Program Evaluation

VI. Reports

VII. Local Government Participation

VIII. Funding Criteria for 402 Projects

Appendices

Appendix A. Highway Safety Program Standard 17 Pupil Transportation Safety

B. Glossary of Definitions

C. References

D. Representative Projects

E. Resource Organizations

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

HIGHWAY SAFETY PROGRAM MANUAL

Volume 17 PUPIL TRANSPORTATION SAFETY	Transmittal 34
Chapter I PURPOSE	February 1974

Par. 1. Introduction
2. Purpose
3. Specific Objectives

1. INTRODUCTION

There is a recognized national need for improving pupil transportation programs in both the public and private sectors. This volume is designed to assist the States in initiating, expanding and improving programs under the national Standard on pupil transportation safety.

2. PURPOSE

To interpret the Pupil Transportation Safety Standard and policies on a national uniform basis and to assist the States in achieving the highest attainable level of safety in the transportation of school children.

3. SPECIFIC OBJECTIVES

The specific objectives of the pupil transportation safety program are to ensure that:

a. Each person who operates a vehicle identified as a school vehicle is properly licensed and examined for this job.

b. An approved training program is provided by or through the responsible State agency that will enable each driver to operate the school vehicle as skillfully and safely as possible.

c. The greatest degree of uniformity and safety in the loading and unloading of school vehicles is obtained nationally.

d. Each child who rides in a school vehicle is instructed as to safe riding behavior.

e. School vehicles are inspected at frequent intervals and maintained in safe operating condition.

f. Adequate records are kept with respect to crashes, injuries and fatalities which occur during the operation of the school vehicle, as well as other information which would contribute to improved operational safety.

HIGHWAY SAFETY PROGRAM MANUAL

Volume 17 PUPIL TRANSPORTATION SAFETY	Transmittal 34
Chapter II AUTHORITY	February 1974

Par. 1. Authority
2. Standard

1. AUTHORITY

The authority for the Program Standard on Pupil Transportation Safety is vested in the Secretary of Transportation in accordance with Chapter 4 of Title 23, U.S.C. (hereinafter referred to as the Highway Safety Act of 1966). Section 402(a) requires that:

> "Each State shall have a highway safety program approved by the Secretary designed to reduce traffic accidents and deaths, injuries and property damage resulting therefrom. Such programs shall be in accordance with uniform Standards promulgated by the Secretary."

2. STANDARD

The Secretary in May, 1972 promulgated Standard 17, Pupil Transportation Safety, (Appendix A), which presents requirements to be met in the design and implementation of the State Pupil Transportation Safety Program.

HIGHWAY SAFETY PROGRAM MANUAL

Volume 17 PUPIL TRANSPORTATION SAFETY	Transmittal 34
Chapter III GENERAL POLICY	February 1974

Par. 1. Introduction
2. Policies

1. INTRODUCTION

a. This volume supplements the provisions of the Pupil Transportation Safety Standard setting forth guidelines and suggestions for implementing an effective pupil transportation safety program.

b. The guidelines set forth in this volume seek an appropriate balance between safety achieved through statutory regulation of school vehicles and safety achieved through the development of carefully selected and trained drivers operating well maintained vehicles.

2. POLICIES

The general policy of the Department of Transportation is to encourage and support the States in improving pupil transportation safety. In the interest of promoting a comprehensive State program in pupil transportation, the State should exercise broad general controls over standards for school vehicles and equipment, safety, finance and standards of adequacy. More specifically the State should:

a. Adopt standards for school vehicles which are in accordance with the Federal Motor Vehicle Safety Standards and those set by the National Conference on School Transportation in the publication Minimum Standards for School Buses (1970 Revised Edition).

b. Approve school vehicles before they are registered by the State agency with responsibility for titling and registering motor vehicles.

c. Provide guidelines for the selection, training and supervision of all pupil transportation personnel.

d. Establish regulations governing the operation of all school vehicles in the State.

e. Provide a uniform transportation accounting system for the use of all schools.

f. Establish a system for keeping statistical data on pupil transportation and for reporting crashes and other incidents involving drivers, passengers and vehicles.

g. Establish clear lines of coordination among the various agencies having responsibility for pupil transportation. For example, traffic engineering responsibilities for routing and establishing bus stop locations should be identified.

h. Provide assistance to school administrators, contractors and others in making transportation surveys, evaluating bus garages and maintenance facilities, organizing transportation programs and establishing safe vehicle inspection and maintenance practices.

HIGHWAY SAFETY PROGRAM MANUAL

Volume 17 PUPIL TRANSPORTATION SAFETY	Transmittal 34
Chapter IV PROGRAM DEVELOPMENT AND OPERATIONS	February 1974

Par. 1. Introduction
2. State Administration
3. Local Administration
4. Identification and Equipment
5. Operation
6. Driver Training
7. Licensing and School Bus Driver
8. Pupil Instruction
9. Vehicle Operation
10. Vehicle Maintenance

1. INTRODUCTION

Although pupil transportation is not a new service of the schools, it has been undergoing an evaluation which has brought numerous changes in policy and procedure. Many of these changes have significantly affected the character of the service. The pupil transportation safety program set forth in the Standard and further defined in this volume comprises ten program areas. Requirements and recommendations for use in the implementation and operation of these program areas are presented in this chapter.

2. STATE ADMINISTRATION

a. The responsibilities listed below should be assumed directly by the State agency with primary responsibility for pupil transportation within the framework of a total cooperative effort whereby this agency and local boards of education work together for the best possible safety program.

(1) Develop and implement a clear, concise policy for pupil transportation.

(2) Provide leadership in the development of a comprehensive school transportation safety program for application statewide.

(3) Develop and implement educational programs and materials for school vehicle drivers, mechanics, supervisors and administrators, and pupil passengers.

(4) Develop and implement a system for collecting and reporting program information relating to pupil transportation safety.

(5) Provide leadership in the development of a school vehicle maintenance program and coordinate the inspection of all school vehicles used to transport children.

(6) Maintain cost and expenditure data for pupil transportation facilities, equipment and staff.

(7) Study and make recommendations regarding liability and insurance, legislation and appropriate research in the field of pupil transportation.

(8) Develop and implement an evaluation program for the State pupil transportation safety effort.

b. Local school units often need advice on a variety of technical problems involved in operating a transportation program. School officials need help on route planning, school bus operating procedures, insurance programs, selecting and drawing up specifications for school vehicles, planning a maintenance shop and training programs as well as many other related problems. The State agency with primary responsibility for pupil transportation should have staff members competent to furnish these advisory services.

3. LOCAL ADMINISTRATION

a. Generally the local area school board has all powers not specifically reserved for the State education authority, including purchase and ownership of school buses, establishing bus routes, employment of drivers, providing for operational and maintenance services, determining policy on all matters not specifically regulated by the State.

b. The local superintendent generally has the responsibility for making recommendations to the board concerning all phases of the transportation system and personnel and for carrying out policies established by the Board of Education, as well as for administering the pupil transportation department.

4. IDENTIFICATION AND EQUIPMENT

a. Use of the stop arm is permitted. No restrictions are currently placed on size, shape or color.

b. It is the intent of the Standard to provide through color, lighting, mirror systems, and the words ''SCHOOL BUS'' for uniform identification and equipment of vehicles used to transport children. It will be necessary for most States to look carefully at the private and parochial school buses operated within their borders to be certain they comply with the lettering, color, warning system and mirror requirements. Privately or publicly owned local transit system buses used for special school route service are exempt from the color requirement because of their dual use as common carriers. Extra care must be taken by drivers of these buses when loading and unloading children because the motoring public is not always as alert around a non-yellow bus as it is around the glossy yellow school bus.

c. Over 20,000 school buses are disposed of each year through resale to other operators or to junk yards. Those that are turned into campers, mobile homes, mobile shops, etc., should not be relicensed until the color has been changed and the warning lights and stop arm, if used, are removed. No vehicle should be operating on the highways that ''appears'' to the motorist to be a school bus, but is not. However, those that continue to be used to transport children to and from school must meet the requirements of the Standard.

d. Field trip or charter work is not prohibited. A vehicle used exclusively for this type of transportation is not to be identified as a Type I school vehicle.

e. The State is required to establish guidelines for the identification of small vans, Type II school vehicles, as school buses. Because there are many instances when these vehicles operate more safely by blending in with traffic rather than trying to control it, the option of painting and equipping as a school bus is left to the States. The State shall establish criteria that will be applied by the local district where the vehicle is used. The following items should be considered:

(1) The intended uses of the vehicle; e.g., transporting children to and from school, transporting athletic teams, regular transportation for handicapped children, etc.

(2) Traffic density in areas where it will operate.

(3) The street width and availability of curb side or driveway loading.

(4) The type of child transported; e.g., handicapped.

(5) Whether registration plates are to be regular bus plates or special plates of some kind.

f. Whether the Type II Vehicle is identified as a school bus or not, there is no Federal restriction against having the name of the school or contractor on the sides.

g. To best meet local needs the State should avoid requiring or prohibiting all Type II vehicles from being identified as school buses.

5. OPERATION

a. Driver Selection

(1) School vehicle drivers should be in good physical condition, of good character, skilled in the operation of their vehicles and in personal relationships with the children they carry. They should be people with morals above reproach, even in temperament, have the ability to adjust to the varying conditions of their job and with positive attitudes toward safety. Their traffic records should be free from arrests, crashes and warning notices for a period of at least three years.

(2) Because the bus driving job is generally a part-time job the population from which drivers can be selected is limited to those who can leave their regular daily activities for several hours in the morning and again in the late afternoon. Each person applying for a bus driving position should complete an application blank which asks for at least the following information:

(a) Name and address of the applicant
(b) Education and special training
(c) Driving record
(d) General physical condition
(e) Armed service record
(f) Personal and business references

(3) A personal interview followed by a series of tests to determine temperament, knowledge and attitude for the job, should be given. A physical examination should be mandatory. The administrator should be sure that the physician understands the qualifications for the bus driving job and can answer yes to the question, "Is the applicant physically qualified in every way to perform the work of a school bus driver?" The examination should include but not be limited to tests for:

(a) Vision deficiencies including tests for glaucoma, depth perception and presence of cataracts.

(b) Tuberculosis

(c) Hypertension

(d) High blood pressure

(e) Overweight

(f) Diabetes

(g) Use of drugs (including alcohol)

(4) A road test in the school vehicle should be given which includes maneuvers difficult enough to test the driver's ability and be given over a standard route with a standard scoring procedure. The results of the road test should be used as a preliminary step in planning a good training program for this driver.

(5) No person over the age of 65 should be hired to drive a school bus. Those who reach the age of 65 while employed as drivers may be permitted to drive as long as health and operating skills permit. Physical examinations for drivers over 65 should be required more frequently than for younger drivers. At least every six months is recommended.

(6) Unsatisfactory drivers should be rejected. For example, those with a bad driving record or where there is evidence of bad moral character within the last three years. For additional guidance see The Selection and Training of School Bus Drivers, Research Report on Contract FH-11-7339 by Human Resources Research Organization, February 1971. (See Appendix C)

6. DRIVER TRAINING

The program of instruction should provide an opportunity for transportation personnel to improve, evaluate and reinforce their learning through discussion with each other and with their instructors. The goal is to motivate them to change their behavior so that the performance of their duties results in a safer trip for the children who are transported.

a. Pre-Service Instruction

Every driver of a school bus should have instruction before being allowed to operate a bus loaded with children. This instruction should be of two types, classroom instruction and behind the wheel instruction. The length of the instructional program should be determined by the experience of the driver applicant. Instructors for these programs may be other drivers, the supervisor or driver trainers who are not only knowledgeable concerning the following topics but skilled enough in the art of teaching and communications to impart knowledge and develop minimal skills in the driver applicant.

Pre-service instruction should include but not be limited to the following:

(1) Classroom instruction

(a) Applicable laws, rules and local regulations

(b) State and local policies covering pupil transportation

(c) First-aid (the standard course as approved by the American Red Cross)

(d) Driver responsibility to the child and to the school

(e) Completion of records and reports

(f) Post-trip vehicle condition reports

(2) Behind-the-wheel Instruction

This instruction should be conducted in the type of vehicle the applicant will drive and should cover at least:

(a) Pre-trip inspection procedures

(b) Care and maintenance of the school bus

(c) Smooth starting, stopping and turning

(d) Proper use of signals

(e) Proper use of the clutch

(f) Emergency evacuation drills

(g) Defensive driving techniques

(3) Pre-service instruction should be at least 40 hours for applicants who have never driven heavy equipment. All other driver applicants should be required to demonstrate knowledge and skill in the above areas. All applicants should have supervised instruction behind-the-wheel first with the bus empty and then with children aboard. Length of instruction to be commensurate with ability. Reference is made to the research entitled The Selection and Training of School Bus Drivers, as an excellent guideline.

b. In-Service Training

The Standard requires that persons whose primary duties involve the transportation of school pupils attain a high degree of competence and knowledge of their duties. Because of the constantly changing conditions all bus drivers should have periodic retraining.

c. In-service training should be devoted to improving skills, attitude and knowledge based on the driver's experience. In-service classes may be held at any time convenient to drivers and instructor(s). Content can be designed around drivers' problems and local school conditions and regulations. Special problems created by railroad crossings, blind intersections, interstate highways, pupil behavior, and skill improvement should be the basis for content.

d. At least 8 hours of in-service training should be provided each school year. The national school bus driver curriculum is recommended as an excellent guideline for course content.

7. LICENSING THE SCHOOL BUS DRIVER

Driving privileges cannot be extended to those who are physically, mentally or emotionally UNABLE to drive. The safety of the public in the use of its streets and highways must be protected. It is recommended that the State agency with primary responsibility for pupil transportation cooperate with the state licensing agency to establish the requirements for a school bus driver's license. Every effort should be made to see that the school bus driver applicant:

a. Holds only one license which identifies the type(s) of vehicle(s) he is authorized to drive.

b. Passes an examination demonstrating his ability to operate the class(es) of vehicle(s) for which he is licensed.

c. Meets those special requirements established by the Bureau of Motor Carrier Safety if he is to operate a bus in interstate or foreign commerce subject to the Bureau's regulatory jurisdiction.

d. Meets the special requirements established by the State education agency including but not limited to:

(1) Health
(2) Emotional stability
(3) Driving record
(4) Criminal record

e. The manual entitled Standards for School Bus Operation, Recommendations of the National Conference on School Transportation, May 1970 provides guidelines for those State agencies involved. A sample physical examination form may be found therein, also forms for the driver application and the driving record. The criminal record check will require that fingerprints be taken.

8. PUPIL INSTRUCTION

a. Pupils who are knowledgeable about the rules for bus riders are more easily held accountable for their behavior and reduce the need for adult or student monitors. Good student behavior permits the school bus driver to give all his attention to the driving task. Students whose behavior threatens the safety of all aboard should be denied transportation until their behavior becomes acceptable.

b. Instruction should include but not be limited to the following:

(1) Identification of the individual who has authority over the passengers

(2) Loading procedures and seat assignments

(3) Acceptable practices with respect to talking, moving around the bus and use of windows

(4) Bus cleanliness

(5) Taking care of the bus and its equipment

(6) Emergency procedures

c. One emergency evacuation drill should be held during the first week of school each semester. If unexpected problems develop, a make-up drill should be scheduled as soon as possible. The following guidelines are given for conducting the emergency evacuation drills:

(1) Be sure there is a written policy covering these drills.

(2) Permission to hold drills should be given by school authorities well in advance.

(3) Initial practice drills should be held on school grounds, during school hours, in a safe place and under supervision.

(4) Allow for individual differences in jumping out the emergency door. Instruct helpers to offer a helping hand palm up and avoid grasping a child's hand or arm. Children will hold on if they want help..

(5) Time each drill.

(6) Additional guidelines may be found in A School Bus Driver's Manual produced by Eastern Michigan University, Ypsilanti, Michigan 48197

9. VEHICLE OPERATION

a. School buses and motorists are involved in extensive interstate travel. Because the State permits the school bus to control traffic, every effort must be made to be sure that school buses are clearly and uniformly identified and that the requirements are clear and uniform upon the motorist as to what to do around a loading or unloading school bus.

b. It is intended that the loading and unloading function of the school bus present as little disruption in traffic as possible by performing this function off the main travelled portion of the highway if possible and by controlling traffic only when and where necessary. It will be noted that the Standard does not require the use of the warning lights every time the bus stops to load and unload (IV.C.3.b.) It should also be noted that the uniform signal for stopping traffic is the flashing red warning lights on a stopped school bus. The red warning lights are not to be activated until after the school bus has stopped. If a pre-warning is necessary, the flashing amber should be used, or the bus driver may pump his brake pedal, or the emergency warning lights may be activated.

c. The red warning lights are not to be used to assist the school bus driver in making left turns, at railroad crossings or during periods when the bus is stopped because the driver must discipline some of the bus passengers.

d. The assistance of a traffic engineer in route design and identification of streets on which the school bus should control traffic is recommended.

e. Many States find the ''Stop Arm'' a distinct advantage in controlling traffic. It is intended that this supplemental warning device not take the place of the flashing red warning lights, therefore, it shall swing into position only during the time the red flashing lights are activated and retract when the red warning lights are deactivated.

f. The following may help alleviate the potential standee problem:

(1) Use multiple tripping

(2) Stagger starting and release time from school

(3) Reduce the number of ineligible riders

(4) Increase walking distance to reduce the number of riders

(5) Buy more buses

10. VEHICLE MAINTENANCE

a. Preventive maintenance is necessary to minimize vehicle breakdown enroute and the possibility of part failure that could lead to a crash. Maintaining the school vehicle in safe operating condition is a job for the professional mechanic. A systematic preventive maintenance program shall be set up on any basis that will assure that each vehicle will operate reliably and perform safely. This may be done on a time or mileage basis or on a combination of both time and miles.

b. Accurate records are important. If there are no records, begin immediately to set up at least a simple folder for each vehicle. Guidance is available from chassis and bus body manufacturers, from oil companies and from local school bus dealers.

c. The school bus driver's pre-trip inspection should cover at least the following:

(1) Windshield and wipers

(2) Engine compartment

Battery	Wiring	Oil level
Belts		Radiator

(3) All outside lights

(4) Exhaust system and a check for any pools of oil or water under bus

(5) Tires and wheels

(6) Emergency door and buzzer and service door

(7) Mirrors

(8) All gauges

(9) All emergency equipment
First-aid kit Chains
Fire extinguisher Axe
Fusees and flares

(10) All glass

(11) Seats

(12) Brakes

(13) Stop arm

(14) All interior lights

(15) Cleanliness of the bus

(16) Security of fuel filler cap

d. If a defect is discovered it should be corrected before the bus transports children. If the defect cannot be corrected immediately written approval should be given by a competent mechanic or the fleet supervisor that the defect would not create a hazard for the children to be transported.

e. A written report should be made at the completion of each trip or tour of duty with respect to any deficiency, malfunction or questionable performance of any of the items listed in section ''c'' above.

HIGHWAY SAFETY PROGRAM MANUAL

Volume 17 PUPIL TRANSPORTATION SAFETY	Transmittal 34
Chapter V PROGRAM EVALUATION	February 1974

Par. 1. Introduction
2. Purpose of Evaluation
3. Evaluation Objectives
4. Evaluation Planning
5. Evaluation Procedure

1. INTRODUCTION

a. A periodic evaluation of program objectives relative to established individual State plans and Highway Safety Program Standard 17 requirements is essential to program effectiveness.

b. Quantitative and qualitative measures relative to the reduction of school bus accidents and pupil injuries must be carefully analyzed in any evaluative procedure.

c. Each State plan should incorporate those features considered conducive to providing a maximum level of safety for the transported child.

d. The quantitative evaluation should include a report of crash frequency, injury and property damage.

e. Research data needed to assure continued improvement in program services should be identified and then collected on a periodic basis.

2. PURPOSE OF EVALUATION

a. Evaluation of school vehicle safety programs will provide a basis for improved transportation safety. Benefits from these evaluations are:

(1) The identification of existing program deficiencies will facilitate improvements in planning at the State and local levels.

(2) The application of knowledge relative to the strengths and weaknesses in present programs of service will provide for the most effective utilization of available funds.

(3) Implementation of research procedures can be initiated in areas of greatest need at both State and local levels.

3. EVALUATION OBJECTIVES

The evaluation of program services should be conducted on an objective basis and should include:

a. Continuity in the evaluation of program services.

b. Early identification of program deficiencies.

c. Implementation of corrective procedures for maximum safety and program efficiency.

d. Collection of relevant data for essential aspects of program service.

4. EVALUATION PLANNING

Adequate planning, prior to the implementation of the Pupil Transportation Safety Standard, is essential to the completion of a comprehensive evaluation of the overall program. The planning procedure should emphasize:

a. The establishment of essential short and long range goals, with provisions for periodic evaluations of progress along predetermined time schedules proposed at the time of implementation.

b. A series of definitive procedural steps, supplemented with a compilation of pertinent data and acceptable measuring techniques.

c. The correlation of pre-implementation data with current data collected for evaluation purposes.

d. A point by point comparison of the State's present program with the Standard to identify deficiencies.

e. The preparation of an implementation schedule that would expedite compliance with the Pupil Transportation Safety Standard.

f. The formulation of concise, yet comprehensive, procedures to be utilized in the evaluative process.

5. EVALUATION PROCEDURE

Definitive quantitative measures should be devised, perfected, and adopted to facilitate a reduction in the frequency and severity of school vehicle crashes and pupil injuries. Consequently, the evaluation of pupil transportation service should be conducted in accordance with the following types of criteria.

a. Essential Criteria:

(1) Written policies have been adopted by the board of education to govern the pupil transportation program.

(2) The program is administered by a transportation supervisor who meets or exceeds employment requirements recommended by the State Department of Education.

(3) Physical examinations are required of all driver personnel.

(4) Pupil transportation equipment is replaced on a systematic scheduled basis.

(5) Pupil loads do not exceed the available seating capacity of the transporting unit.

(6) The curriculum is supplemented with instruction in pupil safety for all transported pupils.

(7) A map of all school bus routes, complete with school centers and supporting zones (where applicable), is maintained on a current basis.

(8) Transportation equipment is repaired and maintained under provisions of a preventive maintenance program.

b. Flexible Criteria:

The following criteria should be appraised and scored (1 through 3) in the following manner with special emphasis devoted to the degree of quality and/or quantity evidenced within the program of service. The final score may be used as a benchmark. Each year of program operation should show an improved score.

3 Superior
2 Adequate
1 Inadequate
N Does not apply

ADMINISTRATION

( ) 1. Pupil transportation is recognized as an integral part of the education program.

( ) 2. Written policies have been adopted by the board of education to govern the program of transportation service.

( ) 3. Board policies and decisions are a matter of school board record.

( ) 4. Pupils are provided with written and oral instruction describing safe riding practices at periodic intervals during the school year.

( ) 5. Definitive job descriptions have been provided for all program personnel.

( ) 6. Emergency evacuation drills are required of all transported pupils.

( ) 7. Program services are provided in accordance with State laws and State Department of Education rules and regulations.

( ) 8. Properly designated and supervised school bus loading zones are provided at all affected school centers.

( ) 9. Insurance coverage equivalent to, or in excess of, State minimum requirements is provided.

( ) 10. Bus routes are planned to improve program efficiency, operational economy and pupil safety on a system-wide basis.

( ) 11. Seating accommodations are provided for all transported pupils.

( ) 12. Pickup and discharge points are located off the main traveled portion of the highway when reentry into the normal flow of traffic does not constitute a greater hazard.

( ) 13. Routes are designed to restrict normal time in transit to a maximum of one hour for Jr. and Sr. High students and 45 minutes for Elementary students.

( ) 14. Definite time schedules are observed on all established routes.

( ) 15. Bus stops, located to minimize the possibility of crashes en-route, are permitted at 600 feet minimums in urban type patterns of traffic.

( ) 16. Pupils are loaded and discharged only at predetermined stops along the route.

[ ] Administration total score.

PROGRAM PERSONNEL

Administrative:

( ) 17. The supervisor, or director of transportation, is employed on a full-time basis and is directly accountable to the super-intendent of schools for implementation of the school board's program of transportation service.

( ) 18. The supervisor, or director of transportation, maintains close cooperation with drivers and maintenance personnel.

( ) 19. Satisfactory job performance is rewarded with tenure or favor-able job security.

( ) 20. A continual effort is made to improve professional competencies through attendance and participation in professional meetings.

( ) 21. Prior experience in pupil transportation or school administration is a prerequisite for employment.

[ ] Administrative Personnel total score.

Driver:

( ) 22. All regular and substitute driver personnel possess a valid license issued by the State licensing agency(ies).

( ) 23. A minimum of one complete physical examination is required of all driver personnel annually.

( ) 24. Driver training programs, developed and sponsored by the State Department of Education, are mandatory for all school bus driver personnel.

( ) 25. Minimum and maximum age limits for driver personnel are established for employment purposes.

( ) 26. Drivers are employed annually under the provisions of a written contract.

( ) 27. Driver personnel are required to complete a written report on all school bus crashes regardless of the severity of damage.

( ) 28. Drivers meet all special requirements established by the State Department of Education and other appropriate State agencies.

( ) 29. All drivers have completed a basic course in First-Aid.

( ) 30. Drivers assume positions at the door entrance to assist teachers in the loading of pupils.

[ ] Driver Personnel total score.

Maintenance:

( ) 31. The maintenance staff is employed on the basis of a 1:15 (or less) mechanic/vehicle ratio.

( ) 32. Mechanics are required to attend a State-approved training session on an annual basis.

( ) 33. Previous experience is required as a condition of employment.

( ) 34. Employment is provided on a 12 months calendar year basis.

( ) 35. Regular mechanics perform maintenance duties on a full-time basis.

( ) 36. Responsibility for the maintenance of equipment is assigned to the shop foreman.

[ ] Maintenance Personnel total score.

[ ] Program Personnel total score.

PUPIL TRANSPORTATION EQUIPMENT

( ) 37. All buses either equal or exceed the minimum standards for school buses as recommended by the National Conference on School Transportation (see appendix).

( ) 38. Buses are inspected at least semi-annually by State agency personnel and more frequently by personnel within the local education agency.

( ) 39. Buses are equipped with flashing red warning lights in combinations of four or eight as specified in Motor Vehicle Safety Standard No. 108.

( ) 40. Vehicles utilized for transportation purposes are registered in accordance with Highway Safety Program Standard No. 2.

( ) 41. The number of pupils assigned to ride a bus is determined by the seating capacity of the bus.

[ ] Pupil Transportation Equipment total score.

MAINTENANCE PROGRAM

( ) 42. The repair facility is adequate to provide for the maintenance of all transportation equipment.

( ) 43. Buses are inspected for possible mechanical deficiencies on a regularly scheduled basis.

( ) 44. Records of mechanical repairs are maintained for each vehicle within the school bus fleet.

( ) 45. A current inventory of parts and supplies is maintained.

( ) 46. A written record is maintained on all repairs conducted on individual units

( ) 47. The repair facility includes special provisions for the painting of vehicles.

( ) 48. Telephone service is provided at the repair facility.

[ ] Maintenance Program total score.

[ ] GRAND TOTAL SCORE

Total number of questions (48) minus (-) number of inapplicable questions (N)

The resulting answer, expressed as a quotient, can serve as a benchmark against which program progress in succeeding years can be evaluated.

c. Research Techniques

(1) Information studies should be initiated to provide local school officials with data essential to the reduction or elimination of program deficiencies.

(2) Studies or research areas to be considered should focus attention upon those aspects of accident involvement that were considered contributory in nature and provide suggested corrective measures to prevent their recurrence.

(3) Data collection procedures including type, content of data, and frequency of collection, should be constantly revised to avoid inadequate collection procedures and the accumulation of irrelevant data on reported accidents.

HIGHWAY SAFETY PROGRAM MANUAL

Volume 17 PUPIL TRANSPORTATION SAFETY	Transmittal 34
Chapter VI REPORTS	February 1974

Par. 1. Introduction
2. Operational Reports
3. Program Information Reporting System

1. INTRODUCTION

Effective program management requires that State program administrators be kept informed of the various activities carried on by the local school districts, contractors and others operating school buses.

2. OPERATIONAL REPORTS

a. Records of successful completion of bus driver training courses should be available from public schools, contractors and others engaged in transporting children to and from school.

b. Records of pre-service and in-service training should be kept.

c. Records of training programs for other pupil transportation personnel such as school bus mechanics, and fleet supervisors should be kept.

d. The following suggested Pupil Transportation Safety Program Report can serve as a guide for the State Administrator in evaluating the State program and developing a reporting form for all public, private and parochial fleets of school vehicles.

PUPIL TRANSPORTATION SAFETY PROGRAM REPORT	SCHOOL DISTRICT	REPORTING PERIOD

PROGRAM ADMINISTRATION	YES	NO
1. Name and title of State official in charge of program		
2. Has the State issued written policies or regulations on pupil transportation?		
3. Has the State established written qualifications for school bus drivers?		
4. Are school pupil transportation programs reviewed annually by the State?		
5. Have plans and guidelines been published for safe school bus routing?		
6. Is advisory service provided to help non-public school bus operators meet minimum requirements?		
7. Have requirements for Type II school vehicle identification and operation been published?		
8. What agency(s) is responsible for seeing that private and parochial school buses comply with the Standard?		
9. What agency(s) is responsible for seeing that privately or publicly owned local transit system buses comply with the Standard?		

EQUIPMENT	
1. What percent of all school buses meet the mirror requirement?	
2. What percent of all school buses are equipped with the 8-light warning system?	
3. What percent of all school buses are equipped with safety belts for the drivers?	
4. How many of all school buses are equipped with safety belts for pupil passengers?	

TRAINING			
1. Total number of male school bus drivers		Number of hours of training given each in-service driver	
Total number of female school bus drivers		4. How many pupils are transported to and from school daily	
2. Total number of new drivers trained		5. What percent of these pupils received training in:	
Total number of in-service drivers trained		a. Safe riding practices	
3. Number of hours of training given each new driver		b. Evacuation drills	

OPERATIONS			
1. What is the average number of standees per day?		How many are owned and operated by private and parochial schools?	
2. How many times are school buses inspected annually?		How many privately or publicly owned and operated transit buses are used?	
What agency(s) make each of these inspections?		4. How many school buses are 17 or more passengers?	
3. How many school buses are operated in the State?		How many school buses are 16 or less?	
How many are owned and operated by the public schools?			

OPERATIONS (Continued)			
5. Total miles all buses are operated per year		10. Total injuries	
How many miles to and from school?		Number of pupils injured	
How many miles on activity or field trips?		Number of school bus drivers injured	
How many miles in all other categories?		11. Total fatalities	
6. What percent of the school bus drivers make the daily pretrip inspection of the bus?		Number of pupils killed	
7. How many pupils are enrolled in public schools?		Number of school bus drivers killed	
How many pupils are enrolled in private or parochial schools?		12. Total number of routes	
8. How many public school pupils are transported?		13. Number of school districts that have pupils transported to and from school	
How many private and parochial school pupils are transported?		14. Total cost of pupil transportation $	
9. How many crashes involve school buses?		Total cost of operating expense $	
Number that were considered preventable		Total capital outlay $	
Number that were due to bus driver error		Other $	

COMMENTS

SIGNATURE OF RESPONSIBLE OFFICIAL	TYPED NAME AND TITLE	DATE

HIGHWAY SAFETY PROGRAM MANUAL

Volume 17 PUPIL TRANSPORTATION SAFETY	Transmittal 34
Chapter VII LOCAL GOVERNMENT PARTICIPATION	February 1974

Par. 1. Introduction
2. Local Agencies Involved
3. Description of Activities

1. INTRODUCTION

Interest, cooperation and active participation of local government agencies and other organizations and individuals at the local level are essential in meeting the goals of the State Pupil Transportation Safety Program. Local school districts play a decisive role in the development, implementation and conduct of the Statewide program. When it is evident that local agencies are unable to perform a necessary function, they should look to the county or State organizations for assistance.

2. LOCAL AGENCIES INVOLVED

The following local public agencies should be considered to have an interest or responsibility for developing and managing a pupil transportation safety program.

a. Community and county school boards and their immediate staffs

b. Public safety and enforcement agencies

c. Community and county highway departments

d. Health authorities

3. DESCRIPTION OF ACTIVITIES

a. School boards and their staff

(1) Prepare written policies on pupil transportation in line with the general policies prepared by the State.

(2) See that pupil transportation staff participate in the educational programs prescribed by the State.

(3) Keep such records and make such reports as are required under the State program.

(4) See that all equipment is purchased and maintained according to the State and Federal regulations.

(5) See that all school bus drivers are selected and trained in accordance with State guidelines.

(6) Conduct such educational programs as will assure all transported pupils the highest degree of safety while they are in or around the school bus.

b. Safety and enforcement agencies

(1) Participate in educational programs for the pupil transportation staff.

(2) Assist pupil transportation staff in the establishment of safe school bus routes and loading areas.

c. Highway departments

(1) Assist schools in the establishment of safe school bus routes and loading areas.

(2) Work closely with the local director of pupil transportation on route safety problems that occur because of road repair or construction and roadside maintenance.

(3) Periodically check the condition of bridges used by school buses.

d. Health authorities

(1) Participate in educational programs for school bus drivers.

(2) Work closely with local transportation director in checking the health and physical condition of all transportation staff who come in contact with transported children.

HIGHWAY SAFETY PROGRAM MANUAL

Volume 17 PUPIL TRANSPORTATION SAFETY	**Transmittal** 34
Chapter VIII FUNDING CRITERIA FOR 402 PUPIL TRANSPORTATION SAFETY PROJECTS	February 1974

Par. 1. Introduction
2. Administration
3. Equipment
4. Pupil Instruction
5. Operating Costs
6. Maintenance Costs
7. Inspections

1. INTRODUCTION

These criteria will be used by NHTSA personnel in approving State Annual Work Programs and specifically pupil transportation safety sub-element plans.

2. ADMINISTRATION

a. Staff Costs - To provide proper administration, supervision, and coordination of a Statewide pupil transportation safety program, there should be an adequate staff of qualified personnel to plan, develop, research and operate the program. These personnel along with their clerical support are fundable.

b. Training Costs - Costs for the development and operation of educational and training programs for school bus drivers, school bus mechanics, fleet supervisors and administrators directly responsible for fleet operation are fundable when they are in accordance with Order NHTSA 462-10/FHWA 7-8, "Use of Section 402 Funds for Training", August 7, 1972.

c. Systems Design and Development - Costs for design and development of data collection and reporting of such information as that identified in Chapters V and VI of this manual are fundable. Costs for special projects involving EDP applications to pupil transportation safety functions are fundable. Computer hardware is not fundable.

d. Evaluation - Costs for design, development and data collection for the annual evaluation of the State program in pupil transportation safety are fundable. Computer hardware is not fundable.

3. EQUIPMENT

a. Purchase costs for Type I and Type II school vehicles whether or not identified as school buses are not fundable.

b. Retrofitting of school vehicles to bring them into compliance with the Standard is fundable on a one-time basis for the following items: repainting, addition of mirror systems to give the seated school bus driver a view of the road area immediately in front of the vehicle, lighting systems that meet the Federal Motor Vehicle Safety Standard requirement.

c. Add-on optional items of equipment such as special types of bumpers, road stabilizers, paging systems, radios, two-way radios or special signalling or warning devices are not fundable.

d. Repainting and equipment removal when the school bus is being converted for purposes other than the transportation of pupils to and from school is not fundable.

4. PUPIL INSTRUCTION

a. Instructional supplies and materials directly related to safe school bus riding practices are fundable.

b. Staff costs for instructing pupils in safe riding practices and emergency evacuation drills are fundable.

5. OPERATING COSTS - Costs for operating Type I and II school vehicles are not fundable.

6. MAINTENANCE COSTS - Costs for maintenance of Type I and II school vehicles are not fundable.

7. INSPECTIONS - Costs for the semi-annual inspections are fundable. Regular maintenance checks and any additional inspections are not fundable.

APPENDIX A

HIGHWAY SAFETY PROGRAM STANDARD NO. 17

Pupil Transportation Safety

I. *Scope.* This standard establishes minimum requirements for a State highway safety program for pupil transportation safety; including the identification, operation, and maintenance of schoolbuses; training of personnel; and administration.

II. *Purpose.* The purpose of this standard is to reduce, to the greatest extent possible, the danger of death or injury to schoolchildren while they are being transported to and from school.

III. *Definitions.* "Type I school vehicle" means any motor vehicle with motive power, except a trailer, used to carry more than 16 pupils to and from school. This definition includes vehicles that are at any time used to carry schoolchildren and school personnel exclusively, and does not include vehicles that only carry schoolchildren along with other passengers as part of the operations of a common carrier.

"Type II school vehicle" means any motor vehicle used to carry 16 or less pupils to or from school. This does not include private motor vehicles used to carry members of the owner's household.

IV. *Requirements.* Each State, in cooperation with its school districts and its political subdivisions, shall have a comprehensive pupil transportation safety program to assure that school vehicles are operated and maintained so as to achieve the highest possible level of safety.

A. *Administration.* 1. There shall be a single State agency having primary administrative responsibility for pupil transportation, and employing at least one full-time professional to carry out its responsibilities for pupil transportation.

2. The responsible State agency shall develop an operating system for collecting and reporting information needed to improve the safety of school vehicle operations, in accordance with Safety Program Standard No. 10, "Traffic Records," § 204.4.

B. *Identification and equipment of school vehicles.* Each State shall establish and maintain compliance with the following requirements for identification and equipment of school vehicles. The use of stop arms is at the option of the State.

1. Type I school vehicles shall:

a. Be identified with the words, "School Bus," printed in letters not less than 8 inches high, located between the warning signal lamps as high as possible without impairing visibility of the lettering from both front and rear, and have no other lettering on the front or rear of the vehicle;

b. Be painted National School Bus Glossy Yellow, in accordance with the colorimetric specification of Federal Standard No. 595a, Color 13432, except that the hood shall be either that color or lusterless black, matching Federal Standard No. 595a, Color 37038;

c. Have bumpers of glossy black, matching Federal Standard No. 595a, Color 17038; unless, for increased night visibility, they are covered with a retroflective material.

d. Be equipped with a system of signal lamps that conforms to the schoolbus requirements of Federal Motor Vehicle Safety Standard 108, 49 CFR 571.21; and

e. Have a system of mirrors that will give the seated driver a view of the roadway to each side of the bus, and of the area immediately in front of the front bumper, in accordance with the following procedure:

When a rod, 30 inches long, is placed upright on the ground at any point along a traverse line 1 foot forward of the forwardmost point of a schoolbus, and extending the width of the bus, at least 7½ inches of the length of the rod shall be visible to the driver, either by direct view or by means of an indirect visibility system.

2. Type I school vehicles that are operated by a privately or publicly owned local transit system, and used for regular common carrier transit route service as well as special school route service, shall meet all of the requirements of this standard, except as follows:

a. Such vehicles need not be painted yellow and black as required by paragraphs 1(b) and 1(c) of this section.

b. In lieu of the requirements of paragraph 1(a) of this section, such vehicles shall, while transporting children to and from school, be equipped with temporary signs, located conspicuously on the front and back of the vehicle. The sign on the front shall have the words "School Bus" printed in black letters not less than 6 inches high, on a background of national school bus glossy yellow, as specified in paragraph 1(b) of this section. The sign on the rear shall be at least 10 square feet in size and shall be painted national

school bus glossy yellow, as specified in paragraph 1(b) of this section, and have the words "School Bus" printed in black letters not less than 8 inches high. Both the 6-inch and 8-inch letters shall be Series "D" as specified in the Standard Alphabets—Federal Highway Administration, 1966.

c. Where such vehicles are used only in places where use of warning signal lamps is prohibited, they need not be equipped with the signal lamps required by paragraph 1(d) of this section.

3. Any school vehicle meeting the identification requirements of 1.a-d above that is permanently converted for use wholly for purposes other than transporting pupils to or from school shall be painted a color other than National School Bus Glossy Yellow, and shall have the stop arms, and equipment required by section IV.B.1.d, removed.

4. Type I school vehicles being operated on a public highway and transporting primarily passengers other than school pupils shall have the words, "School Bus," covered, removed, or otherwise concealed, and the stop arms and equipment required by section IV.B.1.d shall not be operable through the usual controls.

5. a. Type II school vehicles shall either:

(1) Comply with all the requirements for Type I school vehicles; or

(2) Be of a color other than National School Bus Glossy Yellow, have none of the equipment specified in IV.B.1.d, and not have the words, "School Bus," in any location on the exterior of the vehicle, or in any interior location visible to a motorist.

b. The State shall establish conditions under which one or the other of the above two specifications for Type II vehicles shall apply.

C. *Operation.* Each State shall establish and maintain compliance with the following requirements for operating school vehicles:

1. *Personnel.* a. Each State shall develop a plan for selecting, training, and supervising persons whose primary duties involve transporting school pupils, in order to assure that such persons will attain a high degree of competence in, and knowledge of, their duties.

b. Every person who drives a Type I or Type II school vehicle occupied by school pupils shall, as a minimum:

(1) Have a valid State driver's license to operate such a vehicle(s);

(2) Meet all special physical, mental, and moral requirements established by the State agency having primary responsibility for pupil transportation; and

(3) Be qualified as a driver under the Motor Carrier Safety Regulations of the Federal Highway Administration 49 CFR 391, if he or his employer is subject to those regulations.

2. *Pupil instruction.* At least twice during each school year, each pupil who is transported in a school vehicle shall be instructed in safe riding practices, and participate in emergency evacuation drills.

3. *Vehicle operation.* a. Each State shall develop plans for minimizing highway use hazards to school vehicle occupants, other highway users, pedestrians, and property, including but not limited to:

(1) Careful planning and annual review of routes for safety hazards;

(2) Planning routes to assure maximum use of buses, and avoid standees;

(3) Providing loading and unloading zones off the main traveled part of highways, wherever it is practicable to do so;

(4) Establishing restricted loading and unloading areas for schoolbuses at, or near schools;

(5) Requiring the driver of a vehicle meeting or overtaking a schoolbus that is stopped on a highway to take on or discharge pupils, and on which the red warning signals specified in IV.B.1.d are in operation, to stop his vehicle before it reaches the schoolbus and not proceed until the warning signals are deactivated; and

(6) Prohibiting, by legislation or regulation, operation of any vehicle displaying the words, "School Bus," unless it meets the equipment and identification requirements of this standard.

b. Use of flashing warning signal lamps while loading or unloading pupils shall be at the option of the State. Use of red warning signal lamps for any other purpose, and at any time other than when the school vehicle is stopped to load or discharge passengers shall be prohibited.

c. When vehicles are equipped with stop arms, such devices shall be operated only in conjunction with red signal lamps.

d. *Seating.* (1) Seating shall be provided that will permit each occupant to sit in a seat in a plan view lateral location, intended by the manufacturers to provide seating accommodation for a person at least as large as a 5th percentile adult female, as defined in 49 CFR 571.3.

(2) Bus routing and seating plans shall be coordinated so as to eliminate standees when a school vehicle is in motion.

(3) There shall be no auxiliary seating accommodations such as temporary or folding jump seats in school vehicles.

(4) Drivers of school vehicles equipped with lap belts shall be required to wear them whenever the vehicle is in motion.

(5) Passengers in Type II school vehicles equipped with lap belts shall be required to wear them whenever the vehicle is in motion.

D. *Vehicle maintenance.* Each State shall establish and maintain compliance with the follow-

ing requirements for vehicle maintenance:

1. School vehicles shall be maintained in safe operating conditions through a systematic preventive maintenance program.

2. All school vehicles shall be inspected at least semiannually, in accordance with Highway Safety Program Manual Vol. 1, published by the Department of Transportation January 1969. School vehicles subject to the Motor Carrier Safety Regulations of the Federal Highway Administration shall be inspected and maintained in accordance with those regulations (49 CFR Parts 393 and 396).

3. School vehicle drivers shall be required to perform daily pretrip inspections of their vehicles, and to report promptly and in writing any defects or deficiencies discovered that may affect the safety of the vehicle's operation or result in its mechanical breakdown. Pretrip inspection and condition reports for school vehicles subject to the Motor Carrier Safety Regulations of the Federal Highway Administration shall be performed in accordance with those regulations (49 CFR 392.7, 392.8, and 396.7).

V. *Program evaluation.* The pupil transportation safety program shall be evaluated at least annually by the State agency having primary administrative responsibility for pupil transportation. The National Highway Traffic Safety Administration shall be furnished a summary of each evaluation.

APPENDIX B

GLOSSARY OF DEFINITIONS

This glossary defines those terms whose meanings may be unclear in the context in which they are used. These definitions are meant to apply only to the usage of these terms in this volume.

Behind-the-Wheel Instruction - An extension of classroom instruction which provides drivers with supervised learning experiences while operating a motor vehicle.

Classroom Instruction - A supplemental educational program to that which takes place behind the wheel of the school bus.

Emergency Evacuation Drill - A program of instruction which involves pupil and/or adult passengers leaving the school bus via the designated emergency exits under timed conditions.

Political Sub-Divisions - State recognized administrative units having highway safety responsibilities below the State level and responsive to an electorate residing within a defined geographic area of the State.

School bus is a Type I or Type II school vehicle (as defined in Appendix A) meeting the identification and equipment requirements of Highway Safety Program Standard 17.

The following is a selected list of references which may be helpful in implementing the programs specified in this volume. This is not meant to be a bibliography of all the documents available in this field.

Federal Motor Vehicle Safety Standards, 101, 102, 103, 104, 107, 108, 112, 113, 116, 121, 124, 205, 207, 208, 209, 210, 217, 302, National Highway Traffic Safety Administration, Washington, D. C. 20590

Highway Safety Program Standards, Nos. 1, 4, 5, 6, 10, 11, 14, 18. National Highway Traffic Safety Administration, Washington, D. C. 20590

Inadequate Structural Assembly of School Bus Bodies, National Transportation Safety Board, Report #NHTSB-HSS-70-2, July 29, 1970, 800 Independence Avenue, S. W., Washington, D. C. 20590

Minimum Standards for School Buses, 1970 Revised Edition, Recommendations of the National Conference on School Transportation, May 1970. Available from State of Florida, Department of Education, Bureau of Curriculum and Instruction, Publications and Textbook Services, Tallahassee, Florida 32304.

Motor Carrier Safety Regulations, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402 Price 65 cents. (Sections 391, 392.7, 392.8, 393, 396, 396.7.)

Pupil Transportation, Featherston and Culp, Harper and Row, New York, N. Y. 1965.

A School Bus Driver's Manual, Revised edition, 1967. Homer A. Earl, editor. Available from Coordinator, Michigan School Bus Driver Education Program, Eastern Michigan University, Ypsilanti, Michigan 48197.

School Bus Inspection and Maintenance Guide, General Motors Corp., 3044 West Grand Boulevard, Detroit, Michigan 48202.

School Bus Passenger Protection, Derwyn Servey, H. M. Brink, and J. D. Baird, ITTE-UCLA. Completed in 1966. Report made January 9, 1967. Available from Society of Automotive Engineers, Inc., 485 Lexington Avenue, New York, N. Y. 10017. Report No. 670040.

School Bus Safety - Age in Relation to School Bus Operators, Dunlap and Associates, Inc. (PB 189-677). FH 11-6933. National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151.

The Selection and Training of School Bus Drivers, FH 11-7339, Human Resources Research Organization, National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151.

Standards for School Bus Operation, Recommendations of the National Conference on School Transportation, May 1970. Available from the State of Florida, Department of Education, Bureau of Curriculum and Instruction, Publications and Textbook Services, Tallahassee, Florida 32304.

Study of Bus Side Windows, FH 11-6888, All American Engineering Company, Wilmington, Delaware 19899. (PB 195-231), National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151.

Study of School Bus Safety, FH 11-6525, National Education Association (PB 177-905) National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151.

A Study of the Availability and Nature of Information on School Bus Accidents Recorded at the Local Level, prepared for the Office of Education, U. S. Department of Health, Education and Welfare, Washington, D. C. 20202 by Maryland State Department of Education, Baltimore, Maryland 21201. Available from Committee on Education and Labor, House of Representatives, Washington, D. C. Request "SCHOOL BUS SAFETY REPORT," August, 1969.

School Bus Driver Instructional Program, DOT-HS-339-3-652, Part I Course Guide, Part II Instructor Guide, Part III Trainee Study Guide, Applied Science Associates, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

APPENDIX D

REPRESENTATIVE PROJECTS

There are many approaches possible to achieve greater safety in pupil transportation. The following projects are intended to illustrate specific program activities that would materially assist in achieving the purpose of the Standard.

1. School bus driver education at local and/or State level. Programs may be of two types, pre-service and in-service.

2. In-service training for school bus mechanics. These may be special courses conducted by industry or workshops conducted on a regional or Statewide basis.

3. In-service training for fleet supervisors conducted on a Statewide basis.

4. Special projects for State level personnel covering review and approval of programs conducted by non-public schools.

5. Curriculum development.

6. Development of instructional materials such as video tapes and programed learning materials.

7. Trouble shooting and road supervision related to high accident areas in the State.

8. Data processing applications as they relate to:

   a. Crash data

   b. Driver records

   c. Route construction and trip scheduling

   d. Equipment maintenance

   e. Activity trip records

APPENDIX E

RESOURCE ORGANIZATIONS

The following organizations are actively studying the highway safety problem and are knowledgeable regarding pupil transportation safety. They are presented here as sources of more detailed and technical information to aid the States in developing and maintaining a viable pupil transportation program.

American National Standards Association
10 East 40th Street
New York, New York 10016

Association of State Directors of Pupil Transportation Services (Address available from State Director of Pupil Transportation)

National Association of School Bus Contract Operators
4616 Lawn Court
Fairfax, Virginia 22030

National Committee on Uniform Traffic Laws and Ordinances
1776 Massachusetts Ave., N.W.
Washington, D. C. 20036

National Safety Council
425 North Michigan Ave
Chicago, Illinois 60611

School Bus Fleet Magazine
1155 Waukegan Road
Glenview, Illinois 60025

U. S. Department of Transportation
Bureau of Motor Carrier Safety
400 7th St., S.W.
Washington, D. C. 20590

U. S. Department of Transportation
Federal Highway Administration
400 7th St., S.W.
Washington, D. C. 20590

U. S. Department of Transportation
National Highway Traffic Safety Administration
400 7th St., S.W.
Washington, D.C. 20590